



#4

SEQUENCE LISTING

<110> Kolkman, Marc

<120> Enhanced Secretion of a Polypeptide by a Microorganism

<130> GC636-2

<140> US 09/975,132

<141> 2001-10-09

<150> US 60/239,531

<151> 2000-10-10

<160> 30

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Ala Gly Lys Thr Asn Ser Phe Asn Gln Asn Val Ala Leu Asp Asp
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Ala Ala Asn Asp Glu Asn Tyr Ala Leu Ala Ala
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Gly Lys Thr Asn Ser Phe Asn Gln Asn Val Ala Leu Ala Ala
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Gly Lys Thr Asn Ser Phe Asn Gln Asn Val Ala Leu Asp Asp
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gtcgacctcg agaccccaag cttggcgtaa tc. 32

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gtcgacctcg agcggcagaa tcttttttg attctgccgc aaagtcgtct gttgagcctg 60

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<400> 9
ctgcagctcg aggatatcgt cgaccggcag aatcaaaaaa agattctgcc gaccccaagc 60
ttggcgtaat c 71

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cttctactcg agtcagggcag ctaatgctac gttttggta aaactgttag ttttcctgc 60
gctcaaagtc gtctgtttag c 81

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gctcaaagtc gtctgtttag c 81

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ctgttgagc 69

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cagctccgtc tgagaaaaaa g 21

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cgaagtgggc gatttcttcc g 21

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ttctaaaagc ttagtgcttg attcgaaaat caggcctgtg 40

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<400> 23
acgttacgga ttcgacaggg atgg 24

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<400> 24
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<400> 25

Met Ser Arg Leu Pro Val Leu Leu Leu Gln Leu Leu Val Arg Pro
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Gly Leu Gln Ala Pro Met Thr Gln Thr Pro Leu Lys Thr Ser Trp
20 25 30
Val Asn Cys Ser Asn Met Ile Asp Glu Ile Ile Thr His Leu Lys Gln
35 40 45
Pro Pro Leu Pro Leu Leu Asp Phe Asn Asn Leu Asn Gly Glu Asp Gln
50 55 60
Asp Ile Leu Met Glu Asn Asn Leu Arg Arg Pro Asn Leu Glu Ala Phe
65 70 75 80
Asn Arg Ala Val Lys Ser Leu Gln Asn Ala Ser Ala Ile Glu Ser Ile
85 90 95
Leu Lys Asn Leu Leu Pro Cys Leu Pro Leu Ala Thr Ala Ala Pro Thr
100 105 110
Arg His Pro Ile His Ile Lys Asp Gly Asp Trp Asn Glu Phe Arg Arg
115 120 125
Lys Leu Thr Phe Tyr Leu Lys Thr Leu Glu Asn Ala Gln Ala Gln Gln
130 135 140
Thr Thr Leu Ser Leu Ala Ile Phe
145 150

<210> 26

<211> 158

<212> PRT

<213> Artificial Sequence

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<223> IL-3 encoded by plasmid pLATIL-3

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Met Lys Gln Gln Lys Arg Leu Tyr Ala Arg Leu Leu Thr Leu Leu Phe
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Ala Leu Ile Phe Leu Leu Pro His Ser Ser Ala Ser Ala Ala Pro Met
20 25 30
Thr Gln Thr Thr Pro Leu Lys Thr Ser Trp Val Asn Cys Ser Asn Met
35 40 45
Ile Asp Glu Ile Ile Thr His Leu Lys Gln Pro Pro Leu Pro Leu Leu
50 55 60
Asp Phe Asn Asn Leu Asn Gly Glu Asp Gln Asp Ile Leu Met Glu Asn
65 70 75 80
Asn Leu Arg Arg Pro Asn Leu Glu Ala Phe Asn Arg Ala Val Lys Ser
85 90 95
Leu Gln Asn Ala Ser Ala Ile Glu Ser Ile Leu Lys Asn Leu Leu Pro
100 105 110
Cys Leu Pro Leu Ala Thr Ala Ala Pro Thr Arg His Pro Ile His Ile
115 120 125
Lys Asp Gly Asp Trp Asn Glu Phe Arg Arg Lys Leu Thr Phe Tyr Leu
130 135 140
Lys Thr Leu Glu Asn Ala Gln Ala Gln Gln Thr Thr Leu Ser
145 150 155

<210> 27

<211> 158

<212> PRT

<213> Artificial Sequence

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<223> IL-3 substituted tag chanrged C-terminus

<400> 27

Met Lys Gln Gln Lys Arg Leu Tyr Ala Arg Leu Leu Thr Leu Leu Phe
1 5 10 15
Ala Leu Ile Phe Leu Leu Pro His Ser Ser Ala Ser Ala Ala Pro Met
20 25 30
Thr Gln Thr Thr Pro Leu Lys Thr Ser Trp Val Asn Cys Ser Asn Met
35 40 45
Ile Asp Glu Ile Ile Thr His Leu Lys Gln Pro Pro Leu Pro Leu Leu
50 55 60
Asp Phe Asn Asn Leu Asn Gly Glu Asp Gln Asp Ile Leu Met Glu Asn
65 70 75 80
Asn Leu Arg Arg Pro Asn Leu Glu Ala Phe Asn Arg Ala Val Lys Ser
85 90 95
Leu Gln Asn Ala Ser Ala Ile Glu Ser Ile Leu Lys Asn Leu Leu Pro
100 105 110
Cys Leu Pro Leu Ala Thr Ala Ala Pro Thr Arg His Pro Ile His Ile
115 120 125
Lys Asp Gly Asp Trp Asn Glu Phe Arg Arg Lys Leu Thr Phe Tyr Leu
130 135 140
Lys Thr Leu Glu Asn Ala Gln Ala Gln Gln Thr Thr Asp Asp
145 150 155

<210> 28

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<223> tagged IL-3, amino acid

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Met Lys Gln Gln Lys Arg Leu Tyr Ala Arg Leu Leu Thr Leu Leu Phe
1 5 10 15
Ala Leu Ile Phe Leu Leu Pro His Ser Ser Ala Ser Ala Ala Pro Met
20 25 30
Thr Gln Thr Thr Pro Leu Lys Thr Ser Trp Val Asn Cys Ser Asn Met
35 40 45
Ile Asp Glu Ile Ile Thr His Leu Lys Gln Pro Pro Leu Pro Leu Leu
50 55 60
Asp Phe Asn Asn Leu Asn Gly Glu Asp Gln Asp Ile Leu Met Glu Asn
65 70 75 80
Asn Leu Arg Arg Pro Asn Leu Glu Ala Phe Asn Arg Ala Val Lys Ser
85 90 95
Leu Gln Asn Ala Ser Ala Ile Glu Ser Ile Leu Lys Asn Leu Leu Pro
100 105 110
Cys Leu Pro Leu Ala Thr Ala Ala Pro Thr Arg His Pro Ile His Ile
115 120 125
Lys Asp Gly Asp Trp Asn Glu Phe Arg Arg Lys Leu Thr Phe Tyr Leu
130 135 140
Lys Thr Leu Glu Asn Ala Gln Ala Gln Gln Thr Thr Leu Ser Ala Gly
145 150 155 160
Lys Thr Asn Ser Phe Asn Gln Asn Val Ala Leu Asp Asp
165 170

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<213> synthetic peptide tag

<400> 30

Ala Gly Lys Thr Asn Ser Phe Asn Gln Asn Val Ala Leu Arg Arg
1 5 10 15